

**ABSTRACT OF THE DISCLOSURE**

- An electro-optical modulator includes an optical waveguide for carrying an optical carrier wave and a control waveguide for carrying a control wave. The optical waveguide includes a cladding layer and a core. The two waveguides are collinear and overlap in an interaction region so that the refractive index of the optical waveguide responds to electric fields generated by the control wave in the interaction region. The refractive index of the cladding layer at the control wave's wavelength is higher than the refractive index of the core at the optical carrier wave's wavelength.
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